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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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09/189,793

11/12/1998

BYUNG KEUN LIM

K-039

5887

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7590

08/15/2005

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EXAMINER

ELALLAM, AHMED

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 08/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/189,793

Applicant(s)

LIM, BYUNG KEUN

Examiner

AHMED ELALLAM

Art Unit

2662

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 30-32, 34-36, 38-40 and 43 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 30-32, 34-36, 38-40 and 43 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

This communication is responsive to the Amendment RCA filed on 6/13/2005.

Claims 30-32, 34-36, 38-40 and 43 are pending.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 30-32, 34-36, 38-40 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Omura US (5,235,615) in view of Nakajima et US (5,487,083).

Hereinafter referred to Omura and Nakajima respectively.

#### **Claims 30, 32, 34, 36, 38, 40 and 43:**

Regarding claims 30 and 32, with reference to figure 1, Omura discloses a mobile communication system comprising a plurality of remote unit and a base station, a system in which the base station communicates to the plurality of remote units with a plurality of base-communications signals (claimed plurality forward communication channels) which are modulated with spread-spectrum and transmitted simultaneously and on the same carrier frequency from the base station. Similarly Omura discloses that the plurality of remote-communications signals (reverse communication channels), which use the same carrier frequency, are transmitted from the plurality of remote units,

respectively, so that the plurality of remote-communications signals arrive simultaneously at the base station, and that each of the remote-communications signals has its own unique chip codeword. For a particular two-way communications channel between a particular mobile and the base station, the unique chip codeword used for the base-communications signal and the remote-communications signal, respectively, may be the same. See column 2, lines 38-63. (Claimed each of the plurality of reverse communication channels and each of the plurality of forward communication channels utilize one common frequency each of the plurality of reverse communication channels and each of the plurality of forward communication channels have a unique code; and the plurality of reverse communication channels and plurality of forward channels carry data simultaneously). (Examiner interpreted the same carrier frequency as being the claimed common frequency).

Regarding claim 34, 36, with reference to figure 1, Omura discloses a mobile communication system (claimed apparatus) comprising a plurality of remote unit (a remote unit has a transmitter that transmit on reverse channel and a receiver for receiving data on a forward channel) and a base station, See column 3, lines 32-47. Omura also discloses that for a particular two-way communications channel between a particular mobile and the base station, a unique chip codeword used for the base-communications signal and the remote-communications signal, respectively, may be the same. See column 2, lines 38-63. (Examiner interpreted the bi-directional two-way communication as being the claimed the reverse communication channel and the forward communication channel are configured to carry data simultaneously).

Regarding claim 38 and 40, with reference to figure 1, Omura discloses a mobile communication system (claimed apparatus) comprising a plurality of remote and a base station, (base has a transmitter that transmit on reverse channel and a receiver for receiving data on a forward channel), See column 3, lines 32-47. The base station communicates to the plurality of remote units with a plurality of base-communications signals (claimed plurality forward communication channels) , which are modulated with spread-spectrum and transmitted simultaneously and on the same carrier frequency from the base station. Similarly Omura discloses that the plurality of remote-communications signals, which use the same carrier frequency, are transmitted from the plurality of remote units, respectively, so that the plurality of remote-communications signals arrive simultaneously at the base station. Omura further disclose that for a particular two-way communications channel between a particular mobile and the base station, the unique chip codeword used for the base-communications signal and the remote-communications signal, respectively, may be the same. See column 2, lines 38-63. (Claimed the reverse communication channels and the forward communication channels have a unique code), Omura also discloses that the base station communicates to the plurality of remote units with the plurality of base-communications signals (forward communication channels), which are modulated with spread-spectrum and transmitted simultaneously and on the same carrier frequency from the base station. The plurality of remote-communications signals, which use the same carrier frequency, are transmitted from the plurality of remote units, respectively, so that the

plurality of remote-communications signals arrive simultaneously at the base station,  
See column 2, lines 38-63,

Regarding claim 43, with reference to figure 1, Omura discloses a mobile communication system (claimed apparatus) comprising a plurality of remotes units and a base station, (base has a transmitter that transmit on reverse channel and a receiver for receiving data on a forward channel), See column 3, lines 32-47. The base station communicates to the plurality of remote units with a plurality of base-communications signals (claimed plurality forward communication channels), which are modulated with spread-spectrum and transmitted simultaneously and on the same carrier frequency from the base station. Similarly Omura discloses that the plurality of remote-communications signals, which use the same carrier frequency, are transmitted from the plurality of remote units, respectively, so that the plurality of remote-communications signals arrive simultaneously at the base station. (Examiner interpreted the Omura "same " carrier frequency for uplink and downlink channels as being the claimed common frequency channel, and the Omura's base-communications signals and the plurality of remote-communications signals using the same carrier frequency as being the claimed common channel includes a reverse communication channel and forward communication channel that utilize the common channel (since the claimed common channel is referred to as frequency channel in the specification)). Omura further disclose that for a particular two-way communications channel between a particular mobile and the base station, the unique chip codeword used for the base-

communications signal and the remote-communications signal, respectively, may be the same. See column 2, lines 38-63.

As to claims 30, 32, 34, 36, 38, 40 and 43, the difference between Omura and claims 30, 32, 34, 36, 38, 40 and 43 is that Omura, while indicating that the unique code word can be the same for a pair of forward and reverse channels, it does not specify that each reverse channel and forward channel have unique code to identify the channels as a reverse communication channel and forward communication channel respectively).

However, with reference to figure 1A, Nakajima discloses a radio zone (2a) in which a common radio frequency  $f_1$  is used, and wherein a spectrum spreading code group  $C_{11}$  having a plurality of spectrum spreading codes  $C_{111}$ ,  $C_{112}$ , ...,  $C_{11m}$  that define a plurality of communication channels, each communication channel is assigned two spectrum spreading codes which define a pair of forward (from the mobile to the base station) and reverse (from the base station to the mobile station) channels. See column 3, lines 63-67 and column 4, lines 1-11. (Claimed each reverse communication channel having a unique code to identify the channel as a reverse communication channel, and each of forward communication channel having a unique code to identify the channel as forward communication channel).

Therefore, it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to have the forward and reverse channel of Omura each separated by unique code word as taught by Nakajima in lieu of the same code for

both reverse and forward channels so to avoid interference between adjacent radio zones and to increase the capacity. (Nakajima, column 3, lines 59-62).

**Claims 31, 35, and 39:**

Regarding claim 31, Omura discloses having each chip codeword of each remote-communications signal to be orthogonal to chip code words of a plurality of remote communication signals, see column 6, lines 28-51. (claimed each unique code is one of a plurality of mutually orthogonal codes).

Regarding claim 35, Omura discloses having each chip codeword of each remote-communications signal to be orthogonal to chip code words of a plurality of remote communication signals, see column 6, lines 28-51. (Claimed each unique code is one of a plurality of mutually orthogonal codes).

Regarding claim 39, Omura discloses having each chip codeword of each remote-communications signal to be orthogonal to chip code words of a plurality of remote communication signals, see column 6, lines 28-51. (Claimed each unique code is one of a plurality of mutually orthogonal codes).

***Response to Arguments***

1. Applicant's arguments with respect to claims 30-32, 34-36, 38-40 and 43 have been considered but are moot in view of the new ground(s) of rejection.



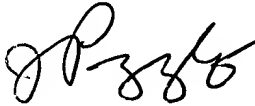
***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to AHMED ELALLAM whose telephone number is (571) 272-3097. The examiner can normally be reached on 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kizou Hassan can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AHMED ELALLAM  
Examiner  
Art Unit 2662  
Friday, August 12, 2005

  
JOHN PEZZLO  
PRIMARY EXAMINER